

# **CLAIMS**

1. An insulating panel (2) for a conditioned-air distribution duct (1), said insulating panel (2) comprising at least one insulating core (3) based on mineral wool, preferably on rock wool, and possibly comprising an exterior layer (4) for example based on a thin skin of aluminum, characterized in that on one exterior face it has a plurality of marks (5) that are straight and oblique with respect to a longitudinal direction of said panel, said marks forming two sets of opposing inclinations oriented at an angle  $\gamma$  with respect to said longitudinal direction.
2. The insulating panel (2) as claimed in the preceding claim, characterized in that said angle  $\gamma$  is substantially between  $82.5^\circ$  and  $52.5^\circ$  and preferably substantially equal to  $67.5^\circ$ .
3. The insulating panel (2) as claimed in either of the preceding claims, characterized in that said exterior face also has a plurality of transverse straight marks (6) oriented at right angles to said longitudinal direction.
4. The insulating panel (2) as claimed in any one of the preceding claims, characterized in that said exterior face also has a plurality of longitudinal straight marks (7) oriented parallel to said longitudinal direction.
5. The insulation panel (2) as claimed in any one of the preceding claims, characterized in that said oblique straight marks (5), and possibly said transverse straight marks (6) and/or said longitudinal straight marks (7) are embodied at least near the longitudinal edges and preferably across the entire surface of the exterior face.

6. The insulating panel (2) as claimed in any one of the preceding claims, characterized in that said oblique straight marks (5), and possibly said transverse straight marks (6) and/or said longitudinal straight marks (7) are embodied on the surface of the exterior face of the exterior layer (4).

7. The insulating panel (2) as claimed in any one of the preceding claims, characterized in that said transverse straight marks (6) and/or said longitudinal straight marks (7) intersect said oblique straight marks (5) at points where longitudinal straight marks (7) of opposing inclination intersect.

8. A distribution duct (1) having a substantially parallelepipedal cross section, the duct being made from at least one insulating panel (2) as claimed in any one of the preceding claims.

9. The distribution duct (1) as claimed in the preceding claim, characterized in that said duct (1) has a main longitudinal axis P and at least one change of direction C at an angle  $\beta$ , altering the main longitudinal axis P into a downstream axis P', P'', said angle  $\beta$  being substantially between 30° and 60° and preferably substantially equal to 45°.

10. A method for manufacturing a distribution duct (1) with a substantially parallelepipedal cross section using at least one insulating panel (2) as claimed in any one of claims 1 to 7.

11. The manufacturing method as claimed in the preceding claim, characterized in that said duct (1) having a main longitudinal axis P and at least one change of direction C at an angle  $\beta$ , altering the main longitudinal axis P into a downstream axis P', P'', said angle  $\beta$  being substantially between 30° and 60° and preferably substantially equal to 45°.

12. The manufacturing method as claimed in claim 11, characterized in that said change in direction C is achieved by cutting each of the faces of said duct from a flat panel (2).

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13. The manufacturing method as claimed in the preceding claim, characterized in that the faces of the duct that are parallel to the plane containing said change in direction C each have more than four sides in  
10 this plane and preferably have six sides or eight sides.

14. The manufacturing method as claimed in claim 11, characterized in that said change in direction C is  
15 achieved by completely sectioning a duct (1) into a primary portion (1') and possibly a secondary portion (1''), and possibly rotating said primary portion (1') or said secondary portion (1'') about its main axis.

20 15. The manufacturing method as claimed in the preceding claim, characterized in that said sectioning is performed on two faces parallel to the plane containing said change in direction C at the angle  $\beta$ , measured with respect to a transverse direction of  
25 these faces, and on the other two faces in a transverse direction of these faces.

16. The manufacturing method as claimed in any one of claims 10 to 15, characterized in that said cutting or  
30 said sectioning is performed using a cutting instrument (10) having two blades (15, 16) situated in the same plane, the cutting edges (17, 18) of the respective blades (15, 16) being directed at opposing inclinations and the first cutting edge (17) being shorter in height  
35 than the second cutting edge (18) in the overall cutting or sectioning direction.

17. A cutting instrument (10) for cutting at least one insulating panel (2) as claimed in any one of claims 1

to 7, characterized in that it has two blades (15, 16) situated in the same plane, the cutting edges (17, 18) of the respective blades (15, 16) being directed at opposing inclinations and the first cutting edge (17) being shorter in height than the second cutting edge (18) in the overall cutting direction.

18. The cutting instrument (10) as claimed in the preceding claim, characterized in that said blades (15, 16) are directed at an angle  $\delta$  with respect to a guide surface (12).

19. The cutting instrument (10) as claimed in the preceding claim, characterized in that  $\gamma = \delta$ .

20. The cutting instrument (10) as claimed in any one of claims 17 to 19, characterized in that the first cutting edge (17) has a height shorter than the total thickness of the panel (2) and the second cutting edge (18) has a height greater than the total thickness of the panel (2).